CLAIM 1

I claim:

1) an automated method for detecting the presence of oxidants in a urine sample comprising

a) placing an aliquot of the urine in a first automated analyzer sample cup

b) placing a standard of known concentration of oxidant in a second automated analyzer sample cup

c) placing the cups in a sample tray within the automated analyzer, transferring the urine from the first sample cup and the standard from the second sample cup to discrete cuvettes mounted within the automated analyzer, injecting an aqueous reagent composition comprising an acid at 0.01 N concentration or higher and one or more phenylamine chromogenic indicators from the group consisting of N,N,N,N-tetramethyl-1,4-phenylenediamine, N,N-diethyl-1,4,-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, N,N-dimethyl-p-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, N,N,N,N-tetramethylbenzidine, 3,3,5,5-tetramethylbenzidine, N,N,N,N-tetramethyl-4,4-diaminestilbene and O-tolidine. into cuvettes and mixing

d) determining the sample-reagent mixture's absorbance with the automated analyzer's spectrophotometer at a preprogrammed wavelength between 400 and 700 nm at a preprogrammed time between 12 seconds and 600 seconds after the phenylamine chromogenic indicator is added to the cuvettes and

e) comparing the absorbance of the urine-reagent mixture to the absorbance of the standard-reagent mixture and thereby determining if the sample has an abnormal amount of oxidant compound present.

CLAIM 2

1) an automated method for detecting the presence of oxidants in a urine sample comprising

a) placing an aliquot of the urine in a first automated analyzer sample cup

b) placing a standard of known concentration of oxidant in a second automated analyzer sample cup

c) placing the cups in a sample tray within the automated analyzer, transferring the urine from the first sample cup and the standard from the second sample cup to discrete cuvettes mounted within the automated analyzer, injecting a first aqueous reagent composition comprising potassium iodide and one or more buffering compounds into the cuvettes

d) injecting a second aqueous reagent composition comprising an acid at 0.01 N concentration or higher and one or more phenylamine chromogenic indicators from the group consisting of N,N,N,N-tetramethyl-1,4-phenylenediamine, N,N-diethyl-1,4,-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, N,N-dimethyl-p-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, N,N,N,N-tetramethylbenzidine, 3,3,5,5-tetramethylbenzidine, N,N,N,N-tetramethyl-4,4-diaminestilbene and O-tolidine into the cuvettes and mixing and

e) determining the sample-reagent mixture's absorbance with the automated analyzer's spectrophotometer at a preprogrammed wavelength between 400 and 700 nm at a preprogrammed time between 12 seconds and 600 seconds after the phenylamine chromogenic indicator is added to the cuvettes and

f) comparing the absorbance of the urine-reagent mixture to the absorbance of the standard-reagent mixture and thereby determining if the sample has an abnormal amount of oxidant compound present.

CLAIM 3

The process according to claim #1 wherein the phenylamine chromogenic indicators include one or more of the following group:

N,N,N,N-tetramethyl-1,4-phenylenediamine, N,N-diethyl-1,4,-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, N,N-dimethyl-p-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, N,N,N,N-tetramethylbenzidine, 3,3,5,5-tetramethylbenzidine, N,N,N,N-tetramethyl-4,4-diaminestilbene and O-tolidine.

CLAIM 4

The process according to claim #1 wherein the acid is a mineral acid from the following group: hydrochloric acid, phosphoric acid, sulfuric acid, glacial acetic acid, and perchloric acid.

CLAIM 5

The process according to claim #1 wherein the indicator is N,N,N,N-tetramethylbenzidine in 0.25 N hydrochloric acid and the wavelength is 415, and the read time is 60 seconds.

CLAIM 6

The process according to claim #2 wherein the phenylamine chromogenic indicators include one or more of the following group:

N,N,N,N-tetramethyl-1,4-phenylenediamine, N-N-diethyl-1,4,-phenylenediamine, 2,3,5,6-tetramethyl-1,4-phenylenediamine, N,N-dimethyl-p-phenylenediamine, 2,4,6-trimethyl-1,3-phenylenediamine, N,N,N,N-tetramethylbenzidine, 3,3,5,5-tetramethylbenzidine, N,N,N,N-tetramethyl-4,4-diaminestilbene and O-tolidine.

CLAIM 7

The process according to claim #2 wherein the acid is a mineral acid from the following group: hydrochloric acid, phosphoric acid, sulfuric acid, glacial acetic acid, and perchloric acid.

CLAIM 8

The process according to claim #2 wherein sodium iodide is substituted for potassium iodide.

CLAIM 9

The process according to claim #2 wherein buffers include sodium hydroxide, sodium acetate, aminomethyl propanol, barbitol, borate, bicine, bis-tris-propane, carbonate, CAPS, Glycine, MOPSO, phosphate, POPSO, TABS, and TRIS.

CLAIM 10

The process according to claim #2 wherein the first aqueous reagent composition consists of potassium iodide, sodium acetate, and sodium hydroxide and the second aqueous reagent composition consists of N,N-diethyl-1,4-phenylenediamine sulfate, N,N,N,N-tetramethyl-1,4-phenylenediamine and hydrochloric acid.